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ABSTRACT

This Ohio Competency Analysis Profile (OCAP), derived from a modified Developing a Curriculum (DACUM) process, is a current comprehensive and verified employer competency program list for dairy producers. Each unit (with or without subunits) contains competencies and competency builders that identify the occupational, academic, and employability skills needed to enter this occupation. Within that outline are three levels of items: core, advancing, and futuring. Core items are essential to entry-level employment. Advancing items are needed to advance in a given occupation. Futuring items are needed to enter and remain in a given occupation 3 to 4 years from now. This profile contains 12 units: (1) general safety precautions; (2) milking and milking systems; (3) animal care; (4) genetics, reproduction, and breeding; (5) waste handling and disposal; (6) nutrition, feeds, and feeding; (7) herd health; (8) marketing; (9) business management; (10) agricultural mechanics; (11) crop production; and (12) employability skills. (NLA)

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OCAP

OHIO'S COMPETENCY ANALYSIS PROFILE

DAIRY PRODUCER

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
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Ohio's Future at Work

Division of Vocational and Career Education
Ohio Department of Education

Vocational Instructional Materials Laboratory
Center on Education and Training for Employment

THE OHIO STATE UNIVERSITY

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What is OCAP?

"A comprehensive and verified employer competency list will be developed and kept current for each program." This is the second objective of Imperative 3 of the *Action Plan for Accelerating the Modernization of Vocational Education: Ohio's Future at Work*. Ohio's Competency Analysis Profile (OCAP) lists are the Division of Vocational and Career Education's response to that objective. OCAP lists evolve from a modified DACUM process involving business, industry, labor, and community agency representatives from throughout Ohio. The OCAP process is directed by the Vocational Instructional Materials Laboratory at The Ohio State University's Center on Education and Training for Employment.

How is OCAP used?

Each OCAP contains units (with and without subunits), competencies, and competency builders that identify the occupational, academic, and employability skills needed to enter a given occupation or occupational area. Within that outline there are three levels of items: core, advancing, and futuring. Core items are essential to entry-level employment. These items are required to be taught and will be the basis for questions on the state vocational competency tests (scheduled to begin in FY93). Advancing items (marked with one asterisk) are needed to advance in a given occupation. Futuring items (marked with two asterisks) are needed to enter and remain in a given occupation three to four years from now.

Districts may add as many units, subunits, competencies, and competency builders as desired to reflect local employment needs, trends, and specialties. Local advisory committees should be actively involved in the identification and verification of additional items. Using OCAP lists, instructors will be able to formulate their courses of study and monitor competency gains via the new competency testing program.

The **Employability Skills** portion of this list was verified by the following employer panel:

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OHIO COMPETENCY ANALYSIS PROFILE

DAIRY PRODUCER

UNIT 1: General Safety Precautions

COMPETENCY 1.0.1: Maintain safe work environment

COMPETENCY BUILDERS:

1.0.1.1 Read and follow safety information
1.0.1.2 Organize and maintain clean and safe work area
1.0.1.3 Determine when work conditions are unsafe
1.0.1.4 Identify hazardous areas
1.0.1.5 Identify and correct safety hazards
1.0.1.6 Install and maintain safety devices
1.0.1.7 Ventilate work areas
1.0.1.8 Clean up and dispose of hazardous materials
1.0.1.9 Store hazardous materials

COMPETENCY 1.0.2: Apply safe work habits

COMPETENCY BUILDERS:

1.0.2.1 Wear protective clothing and equipment
1.0.2.2 Use safe lifting and carrying methods
1.0.2.3 Administer first aid
1.0.2.4 Follow safety directions on hazardous materials labels
1.0.2.5 Use fire extinguishers
1.0.2.6 Recognize symptoms of chemical injury or poisoning
1.0.2.7 Handle compressed gases
1.0.2.8 Maintain and use slow moving vehicle signs when operating vehicles on road
1.0.2.9 Prevent riders on tractors
1.0.2.10 Use safe animal handling practices

COMPETENCY 1.0.3: Operate and maintain equipment

COMPETENCY BUILDERS:

1.0.3.1 Follow safety rules for equipment operation and maintenance
1.0.3.1 Operate equipment defensively
1.0.3.2 Maintain safety shields on all equipment
1.0.3.3 Shut down power equipment before servicing

* Advancing
** Futuring

UNIT 2: Milking and Milking Systems

COMPETENCY 2.0.1 Implement maintenance program

COMPETENCY BUILDERS:

2.0.1.1 Follow general safety precautions
2.0.1.2 Clean pulsators
2.0.1.3 Establish premilking checklist
2.0.1.4 Replace rubber parts
2.0.1.5 Identify parts of milking and cooling systems
2.0.1.6 Recognize function of parts
2.0.1.7 Check vacuum gauges
2.0.1.8 Identify cooler problems*
2.0.1.9 Use automatic and robotic on and off milking equipment**
2.0.1.10 Use universal electronic identification systems**

COMPETENCY 2.0.2: Implement sanitation program

COMPETENCY BUILDERS:

2.0.2.1 Follow general safety precautions
2.0.2.2 Clean milking parlor
2.0.2.3 Read and follow label directions for cleaning materials
2.0.2.4 Store milking equipment cleaning materials
2.0.2.5 Recognize milkstone and deposits*

COMPETENCY 2.0.3: Milk cows

COMPETENCY BUILDERS:

2.0.3.1 Follow general safety precautions
2.0.3.2 Follow milking schedule
2.0.3.3 Operate milking equipment
2.0.3.4 Prepare udder and teats before each milking
2.0.3.5 Check for abnormal milk
2.0.3.6 Dip teats in sanitizing solution after milking
2.0.3.7 Attach and remove milkers
2.0.3.8 Prevent over- and under-milking
2.0.3.9 Recognize risk in handling animals

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COMPETENCY 2.0.4: Manage mastitic cows*

COMPETENCY BUILDERS:

2.0.4.1 Follow general safety precautions
2.0.4.2 Use C.M.T. to identify mastitis problems*
2.0.4.3 Flush milkers after milking*
2.0.4.4 Milk separately or last*
2.0.4.5 Establish teat-dipping program *
2.0.4.6 Interpret somatic cell count*
2.0.4.7 Dry treat cows*
2.0.4.8 Clean cows*
2.0.4.9 Explore genetic links to mastitis**

COMPETENCY 2.0.5: Maintain milk quality*

COMPETENCY BUILDERS:

2.0.5.1 Evaluate preliminary incubation count*
2.0.5.2 Evaluate plate loop count*
2.0.5.3 Evaluate somatic cell count*
2.0.5.4 Prevent water and drug content*

UNIT 3: Animal Care

COMPETENCY 3.0.1: Perform general animal care procedures

COMPETENCY BUILDERS:

3.0.1.1 Follow general safety precautions
3.0.1.2 Identify parts of animal anatomy
3.0.1.3 Follow animal identification system
3.0.1.4 Bed animals
3.0.1.5 Trim hooves*
3.0.1.6 Remove extra teats*
3.0.1.7 Castrate animals*
3.0.1.8 Dehorn animals*
3.0.1.9 Inject implants*

COMPETENCY 3.0.2: Restrain or pen animals

COMPETENCY BUILDERS:

3.0.2.1 Follow general safety precautions
3.0.2.2 Pen animals according to size, weight, sex, temperament, and production
3.0.2.3 Isolate and observe newly purchased animals
3.0.2.4 Restrain animals

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COMPETENCY 3.0.3: Haul animals

COMPETENCY BUILDERS:

3.0.3.1 Follow general safety precautions
3.0.3.2 Prepare carriers
3.0.3.3 Load and unload animals

UNIT 4: Genetics, Reproduction, and Breeding

COMPETENCY 4.0.1: Demonstrate knowledge of genetics and reproduction

COMPETENCY BUILDERS:

4.0.1.1 Identify parts and functions of reproductive system
4.0.1.2 Identify actions of hormones affecting reproduction
4.0.1.3 Apply principles of genetics
4.0.1.4 Establish and implement heat detection plan

COMPETENCY 4.0.2: Plan breeding program*

COMPETENCY BUILDERS:

4.0.2.1 Schedule breeding for even milk production*
4.0.2.2 Schedule breeding for twelve- to thirteen-month calving intervals*
4.0.2.3 Calculate losses caused by pregnancy delays*
4.0.2.4 Evaluate artificial versus natural insemination*
4.0.2.5 Determine age and/or weight for breeding*
4.0.2.6 Arrange semen services*
4.0.2.7 Arrange ova services**

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COMPETENCY 4.0.3: Select animals*

COMPETENCY BUILDERS:

4.0.3.1 Determine types, amounts, and grades of livestock*
4.0.3.2 Evaluate raising versus buying replacements*
4.0.3.3 Analyze linear classification scores*
4.0.3.4 Evaluate sires for proofs and reliability records*
4.0.3.5 Analyze production records and pedigrees*
4.0.3.6 Select for body type and conformation*
4.0.3.7 Determine guidelines for selecting donor cows for embryo transfer*
4.0.3.8 Verify registration papers for purebred animals*
4.0.3.9 Interpret DHIA production records*
4.0.3.10 Evaluate pedigrees*
4.0.3.11 Select for heritability of traits*
4.0.3.12 Select breeds*
4.0.3.13 Identify purchase sources*
4.0.3.14 Negotiate purchase price*
4.0.3.15 Determine sex of semen**

COMPETENCY 4.0.4: Breed animals*

COMPETENCY BUILDERS:

4.0.4.1 Follow general safety precautions*
4.0.4.2 Regulate heat cycles with hormone therapy*
4.0.4.3 Store and handle semen*
4.0.4.4 Determine insemination and embryo deposit time*
4.0.4.5 Breed using artificial insemination*
4.0.4.6 Breed using natural insemination*
4.0.4.7 Schedule pregnancy checks*
4.0.4.8 Determine calving dates*
4.0.4.9 Identify animals unable to conceive*
4.0.4.10 Arrange medical intervention for slow-to-conceive animals*
4.0.4.11 Explore genetic engineering**

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COMPETENCY 4.0.5: Care for newborn animals, mothers, and young animals

COMPETENCY BUILDERS:

4.0.5.1 Follow general safety precautions
4.0.5.2 Identify signs of approaching parturition
4.0.5.3 Prepare facilities for parturition
4.0.5.4 Prepare mothers for parturition
4.0.5.5 Determine calving disorders
4.0.5.6 Assist mothers during delivery
4.0.5.7 Check newborn animals for physical deformities or health problems
4.0.5.8 Clip navel cords and apply disinfectant
4.0.5.9 Clean newborn animals
4.0.5.10 Check mothers for expelled placentas
4.0.5.11 Remove afterbirth from calving area
4.0.5.12 Assist newborn animals in nursing
4.0.5.13 Record animal identification
4.0.5.14 Administer preventive health measures
4.0.5.15 Implement parturition monitors**

UNIT 5: Waste Handling and Disposal

COMPETENCY 5.0.1: Establish and maintain waste handling and disposal system*

COMPETENCY BUILDERS:

5.0.1.1 Follow general safety precautions*
5.0.1.2 Follow local, state, and federal legislation*
5.0.1.3 Operate and maintain equipment*
5.0.1.4 Manage nutrient value of manure*

COMPETENCY 5.0.2: Handle and dispose of waste

COMPETENCY BUILDERS:

5.0.2.1 Follow general safety precautions
5.0.2.2 Control waste runoff from feedlots and housing quarters
5.0.2.3 Determine application methods and rates
5.0.2.4 Dispose of dead animals*
5.0.2.5 Dry and recycle waste**
5.0.2.6 Follow local, state, and federal legislation*

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UNIT 6: Nutrition, Feeds, and Feeding

COMPETENCY 6.0.1: Establish nutrient requirements*

COMPETENCY BUILDERS:

6.0.1.1 Determine production requirements*
6.0.1.2 Determine reproduction requirements*
6.0.1.3 Determine growth requirements*
6.0.1.4 Determine maintenance requirements*
6.0.1.5 Determine effects of environmental factors on nutritional requirements*

COMPETENCY 6.0.2: Determine nutritive value of feedstuffs*

COMPETENCY BUILDERS:

6.0.2.1 Classify feeds according to major nutrient groups*
6.0.2.2 Identify factors influencing feedstuff quality*
6.0.2.3 Collect grain and forage samples for nutrient analysis*
6.0.2.4 Interpret nutrient analysis methods and results*
6.0.2.5 Interpret feed tags and labels*
6.0.2.6 Interpret nutrient requirement tables*
6.0.2.7 Interpret feed composition tables*
6.0.2.8 Determine nutrients provided by pasture*

COMPETENCY 6.0.3: Balance rations*

COMPETENCY BUILDERS:

6.0.3.1 Use nutrient analysis results*
6.0.3.2 Perform math calculations*
6.0.3.3 Determine costs*
6.0.3.4 Select feeds and additives*
6.0.3.5 Substitute feedstuffs*

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COMPETENCY 6.0.4: Feed animals

COMPETENCY BUILDERS:

6.0.4.1 Follow general safety precautions
6.0.4.2 Follow feed handling guidelines
6.0.4.3 Identify feeds
6.0.4.4 Prepare feedstuffs
6.0.4.5 Prepare mineral mixes
6.0.4.6 Follow feed additive mixing regulations
6.0.4.7 Control waste feed
6.0.4.8 Remove spoiled feedstuffs
6.0.4.9 Observe animal for loss of appetite
6.0.4.10 Evaluate and report ration palatability
6.0.4.11 Lead feed producing cows
6.0.4.12 Feed colostrum to newborn animals
6.0.4.13 Feed veal calves
6.0.4.14 Wean calves*
6.0.4.15 Start calves on bucket feeding
6.0.4.16 Feed milk replacer to calves
6.0.4.17 Start calves on grain and roughage feeding
6.0.4.18 Clean and maintain equipment

UNIT 7: Herd Health

COMPETENCY 7.0.1: Monitor health

COMPETENCY BUILDERS:

7.0.1.1 Follow general safety precautions
7.0.1.2 Follow health program
7.0.1.3 Evaluate condition of animals
7.0.1.4 Take animals' temperatures
7.0.1.5 Determine when to call veterinarian
7.0.1.6 Isolate injured or diseased animals
7.0.1.7 Recognize common animal illnesses
7.0.1.8 Use electronic detection methods**

COMPETENCY 7.0.2: Follow sanitation program

COMPETENCY BUILDERS:

7.0.2.1 Follow general safety precautions
7.0.2.2 Identify sanitation problems
7.0.2.3 Disinfect buildings and equipment
7.0.2.4 Use insect repellants
7.0.2.5 Select cleaning chemicals and equipment*

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COMPETENCY 7.0.3: Follow parasite control program

COMPETENCY BUILDERS:

7.0.3.1 Follow general safety precautions
7.0.3.2 Identify common internal and external parasites and their symptoms*
7.0.3.3 Select materials to control parasites*
7.0.3.4 Construct and maintain back scratcher for insecticide application*
7.0.3.5 Apply pesticides

COMPETENCY 7.0.4: Treat minor health problems

COMPETENCY BUILDERS:

7.0.4.1 Follow general safety precautions
7.0.4.2 Treat cuts and bruises
7.0.4.3 Record medication treatments
7.0.4.4 Identify types of injections and procedures
7.0.4.5 Treat animals suffering from bloat
7.0.4.6 Identify and mark treated animals
7.0.4.7 Determine amount of medication or material to use*
7.0.4.8 Administer medications and antibiotics*
7.0.4.9 Administer new preventive medications**

COMPETENCY 7.0.5: Control nutritional problems

COMPETENCY BUILDERS:

7.0.5.1 Administer stomach magnets
7.0.5.2 Identify symptoms of nutritional imbalance*
7.0.5.3 Supplement diet to lower incidence of milk fever*

COMPETENCY 7.0.6: Control bacterial, viral, and fungal diseases

7.0.6.1 Follow general safety precautions
7.0.6.2 Identify common disease symptoms
7.0.6.3 Follow vaccination program
7.0.6.4 Follow mastitis control program
7.0.6.5 Treat calves for scours
7.0.6.6 Regulate air movement and temperature in facilities*
7.0.6.7 Administer time release medications**
7.0.6.8 Use biotech applications**

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COMPETENCY 7.0.7: Manage medications and chemicals

COMPETENCY BUILDERS:

7.0.7.1 Follow general safety precautions
7.0.7.2 Store properly labeled medications and chemicals
7.0.7.3 Dispose of unused or outdated medications and chemicals
7.0.7.4 Maintain inventory-and-use record
7.0.7.5 Follow government regulations

UNIT 8: Marketing

COMPETENCY 8.0.1: Analyze market*

COMPETENCY BUILDERS:

8.0.1.1 Identify information sources*
8.0.1.2 Interpret market reports*
8.0.1.3 Analyze market cycles*
8.0.1.4 Evaluate effect market grades have on market prices*
8.0.1.5 Determine daily cash and future prices*
8.0.1.6 Calculate expected returns and profits*
8.0.1.7 Calculate end product pricing system for milk*
8.0.1.8 Compare and evaluate base milk prices and milk market differential prices*
8.0.1.9 Breed cows for milk composition**
8.0.1.10 Evaluate niche marketing (e.g., goat milk)**

COMPETENCY 8.0.2: Establish marketing plans*

COMPETENCY BUILDERS:

8.0.2.1 Evaluate options of feeding grains, purchasing feeds, or marketing grains*
8.0.2.2 Evaluate marketing options*
8.0.2.3 Develop crop marketing plan*
8.0.2.4 Develop livestock marketing plan*

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COMPETENCY 8.0.3: Market products*

COMPETENCY BUILDERS:

8.0.3.1 Determine when to market*
8.0.3.2 Verify market grades or classes of products sold*
8.0.3.3 Determine how milk is priced*
8.0.3.4 Complete delayed price transaction*
8.0.3.5 Complete hedging transaction*
8.0.3.6 Complete forward contract transaction*
8.0.3.7 Consign animals to sales*
8.0.3.8 Photograph animals for advertisements*
8.0.3.9 Prepare advertisements*
8.0.3.10 Use electronic marketing**

COMPETENCY 8.0.4: Ship products

COMPETENCY BUILDERS:

8.0.4.1 Follow general safety precautions
8.0.4.2 Contract for milk pickup*
8.0.4.3 Arrange crop or livestock transport*
8.0.4.4 Prepare vehicle and load crops or livestock
8.0.4.5 Transport and unload crops or livestock
8.0.4.6 Calculate livestock shrinkage*
8.0.4.7 Verify market class or grade on sales ticket
8.0.4.8 Verify weights and prices on sales ticket
8.0.4.9 Process milk product using ultra filtration **

UNIT 9: Business Management

COMPETENCY 9.0.1: Perform general office work

COMPETENCY BUILDERS:

9.0.1.1 Process incoming and outgoing mail
9.0.1.2 Establish filing system
9.0.1.3 File materials
9.0.1.4 Schedule and hold appointments
9.0.1.5 Meet with people
9.0.1.6 Use telephone
9.0.1.7 Write correspondence
9.0.1.8 Operate computer
9.0.1.9 Use two-way radio

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COMPETENCY 9.0.2: Perform general banking procedures

COMPETENCY BUILDERS:

9.0.2.1 Write checks
9.0.2.2 Prepare bank deposit slips and make bank deposits
9.0.2.3 Balance bank statements
9.0.2.4 Use electronic banking procedures**

COMPETENCY 9.0.3: Inventory business

COMPETENCY BUILDERS:

9.0.3.1 Establish inventory system*
9.0.3.2 Take physical inventory of structures, facilities, equipment, and livestock
9.0.3.3 Calculate amount of grain and forage
9.0.3.4 Determine volume or capacity of storage facilities*
9.0.3.5 Categorize inventory items as current, intermediate, or long-term assets*
9.0.3.6 Determine current market value for inventory items*

COMPETENCY 9.0.4: Supervise and manage labor*

COMPETENCY BUILDERS:

9.0.4.1 Determine amount of labor needed*
9.0.4.2 Evaluate hiring labor versus contracting services*
9.0.4.3 Prepare for periods of peak work loads*
9.0.4.4 Maintain clean, safe working environment*
9.0.4.5 Establish pay scale, benefits, and incentives*
9.0.4.6 Hire workers*
9.0.4.7 Plan work schedules*
9.0.4.8 Train workers*
9.0.4.9 Evaluate worker performance*
9.0.4.10 Establish job termination procedures*

COMPETENCY 9.0.5: Maintain supplies

COMPETENCY BUILDERS:

9.0.5.1 Set minimum and maximum inventory levels
9.0.5.2 Regulate storage facility environment
9.0.5.3 Compare costs and quality of supplies from different sources*
9.0.5.4 Purchase supplies*
9.0.5.5 Use electronic management procedures**

* Advancing
** Futuring

COMPETENCY 9.0.6: Complete financial and tax records

COMPETENCY BUILDERS:

9.0.6.1 Maintain record-keeping system*
9.0.6.2 Record receipts and expenses
9.0.6.3 Maintain livestock and crop enterprise records
9.0.6.4 Maintain accounts payable and receivable record*
9.0.6.5 Evaluate cash versus accrual reporting methods*
9.0.6.6 Maintain payroll records*
9.0.6.7 Determine depreciation method*
9.0.6.8 Compute book value of depreciable assets*
9.0.6.9 Calculate and record depreciation*

COMPETENCY 9.0.7: Complete general and production records

COMPETENCY BUILDERS:

9.0.7.1 Maintain inventory records
9.0.7.2 Maintain crop production records
9.0.7.3 Maintain labor records
9.0.7.4 Maintain livestock production records
9.0.7.5 Maintain accident records
9.0.7.6 Maintain pedigree records
9.0.7.7 Maintain equipment service records
9.0.7.8 Maintain health records
9.0.7.9 Determine field acreage using actual measurements and scale maps
9.0.7.10 Draw and interpret farm map including field boundaries, major soil types, topography, vegetation, surface drainage, and travel areas *
9.0.7.11 Draw and interpret farm map of subsurface drainage system*

COMPETENCY 9.0.8: Summarize and analyze business records*

COMPETENCY BUILDERS:

9.0.8.1 Make ten-month summary of cash expenses and receipts*
9.0.8.2 Calculate efficiency factors*
9.0.8.3 Calculate family labor and management income*
9.0.8.4 Determine net income and profit*
9.0.8.5 Analyze and compare use of capital with standards for similar farms*
9.0.8.6 Prepare income statement*
9.0.8.7 Calculate and record net worth*
9.0.8.8 Determine effectiveness of management practices*

* Advancing
** Futuring

COMPETENCY 9.0.9: Finance business

COMPETENCY BUILDERS:

9.0.9.1 Identify credit strengths and weaknesses
9.0.9.2 Develop cash flow projections
9.0.9.3 Establish budget
9.0.9.4 Evaluate risks of using borrowed capital
9.0.9.5 Identify factors influencing credit ratings
9.0.9.6 Plan one-year, intermediate, and long-term credit needs
9.0.9.7 Identify credit sources
9.0.9.8 Evaluate loan repayment terms and conditions
9.0.9.9 Select credit source
9.0.9.10 Negotiate credit plan
9.0.9.11 Calculate cost of loan
9.0.9.12 Fill out loan application
9.0.9.13 Sign loan agreement
9.0.9.14 Maintain balance of savings and cash
9.0.9.15 Make loan payments

COMPETENCY 9.0.10: Prepare and file tax forms*

COMPETENCY BUILDERS:

9.0.10.1 Calculate property taxes*
9.0.10.2 Select tax consultant service*
9.0.10.3 Determine amount of social security to be paid*
9.0.10.4 Estimate income tax*
9.0.10.5 Prepare federal income tax FICA schedule*
9.0.10.6 Prepare federal income tax capital gains or loss schedule*
9.0.10.7 Prepare federal income tax form 1040*
9.0.10.8 Prepare state income tax form*
9.0.10.9 Apply for a refund for nonhighway use of federal and state gas tax*

COMPETENCY 9.0.11: Plan insurance coverage*

COMPETENCY BUILDERS:

9.0.11.1 Determine type and amount of insurance needed*
9.0.11.2 Evaluate different types of insurance*
9.0.11.3 Identify insurance providers and evaluate programs*
9.0.11.4 Complete insurance application and purchase insurance*
9.0.11.5 Apply for collections*

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COMPETENCY 9.0.12: Follow legal requirements

COMPETENCY BUILDERS:

9.0.12.1 Identify government agencies regulating dairy operations
9.0.12.2 Comply with employers' and employees' legal responsibilities
9.0.12.3 Establish system for government regulation compliance*

COMPETENCY 9.0.13: Obtain land*

COMPETENCY BUILDERS:

9.0.13.1 Determine amount of land needed*
9.0.13.2 Determine amount of capital available for obtaining land*
9.0.13.3 Determine whether to purchase or lease land*
9.0.13.4 Appraise available land and identify factors influencing use*
9.0.13.5 Evaluate and complete lease agreement*
9.0.13.6 Evaluate land price cycles and determine when to purchase*
9.0.13.7 Purchase land*

COMPETENCY 9.0.14: Plan structures*

COMPETENCY BUILDERS:

9.0.14.1 Estimate structure needs*
9.0.14.2 Calculate returns expected from structure investments*
9.0.14.3 Calculate construction, remodeling, and repair costs*
9.0.14.4 Determine locations of new structures*
9.0.14.5 Build or lease structures*
9.0.14.6 Determine zoning requirements*

COMPETENCY 9.0.15: Manage equipment program*

COMPETENCY BUILDERS:

9.0.15.1 Determine equipment needs*
9.0.15.2 Determine whether to purchase or lease equipment, or to hire work done*
9.0.15.3 Determine whether to repair or trade in equipment*
9.0.15.4 Determine whether to do custom work for others*
9.0.15.5 Estimate returns expected from equipment investments*
9.0.15.6 Evaluate advantages and disadvantages of different types and brands of equipment*
9.0.15.7 Evaluate joint ownership of equipment*

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COMPETENCY 9.0.16: Purchase livestock*

COMPETENCY BUILDERS:

9.0.16.1 Determine types, amounts, and grades of livestock*
9.0.16.2 Identify purchase sources*
9.0.16.3 Evaluate raising versus buying replacements*
9.0.16.4 Verify registration papers for purebred animals*
9.0.16.5 Interpret DHIA production records*
9.0.16.6 Negotiate purchase price*
9.0.16.7 Evaluate pedigrees*

COMPETENCY 9.0.17: Enter, establish, and expand business*

COMPETENCY BUILDERS:

9.0.17.1 Establish farm family goals*
9.0.17.2 Evaluate costs and returns for various enterprises*
9.0.17.3 Evaluate options of sole proprietorship, corporation, or partnership*
9.0.17.4 Determine type of business organization*
9.0.17.5 Decide whether to specialize or diversify*
9.0.17.6 Develop plan for adjusting management practices*
9.0.17.7 Determine when to secure professional help*
9.0.17.8 Establish land use plan*

COMPETENCY 9.0.18: Plan retirement and estate*

COMPETENCY BUILDERS:

9.0.18.1 Select retirement program*
9.0.18.2 Plan orderly transfer of property*
9.0.18.3 Transfer ownership or sell farm*
9.0.18.4 Develop plan for bestowing estate*
9.0.18.5 Identify payment methods for estate and gift taxes*

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UNIT 10: Agricultural Mechanics

COMPETENCY 10.0.1: Operate and maintain small engines

COMPETENCY BUILDERS:

10.0.1.1 Follow general safety precautions
10.0.1.2 Check fuel and fuel engine
10.0.1.3 Schedule fluid and filter changes*
10.0.1.4 Select oil
10.0.1.5 Check oil level and change oil and oil filters
10.0.1.6 Start, operate, and shut down engine
10.0.1.7 Mix gas and oil for two-cycle engine
10.0.1.8 Clean external engine components
10.0.1.9 Service air cleaner
10.0.1.10 Remove, clean, and regap spark plugs
10.0.1.11 Replace starter cord*
10.0.1.12 Pull and replace flywheel and clutch assembly*
10.0.1.13 Remove manifold carbon deposits*
10.0.1.14 Service and clean crankcase breathers*
10.0.1.15 Clean and adjust carburetor*
10.0.1.16 Service and clean fuel strainer*
10.0.1.17 Check engine compression*
10.0.1.18 Check and service battery*
10.0.1.19 Troubleshoot problems*
10.0.1.20 Store engine

COMPETENCY 10.0.2: Service cooling systems for large engines

COMPETENCY BUILDERS:

10.0.2.1 Follow general safety precautions
10.0.2.2 Test antifreeze
10.0.2.3 Add radiator coolant
10.0.2.4 Replace hoses
10.0.2.5 Flush cooling system*
10.0.2.6 Test thermostat*
10.0.2.7 Replace thermostat*
10.0.2.8 Replace water pump*
10.0.2.9 Replace radiator*
10.0.2.10 Troubleshoot problems*

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COMPETENCY 10.0.3: Service lubrication systems for large engines

COMPETENCY BUILDERS:

10.0.3.1 Follow general safety precautions
10.0.3.2 Select oil
10.0.3.3 Change oil and oil filters
10.0.3.4 Lubricate equipment
10.0.3.5 Maintain grease fittings
10.0.3.6 Repack bearings*
10.0.3.7 Remove and replace oil seal*
10.0.3.8 Troubleshoot problems*

COMPETENCY 10.0.4: Service fuel and air systems for large engines

COMPETENCY BUILDERS:

10.0.4.1 Follow general safety precautions
10.0.4.2 Service air cleaner
10.0.4.3 Bleed diesel fuel system
10.0.4.4 Service fuel strainer, filters, and sediment bowl*
10.0.4.5 Clean carburetor*
10.0.4.6 Perform basic carburetor overhaul*
10.0.4.7 Adjust engine governor*
10.0.4.8 Adjust engine valves*
10.0.4.9 Replace exhaust system components*
10.0.4.10 Replace fuel pump*
10.0.4.11 Troubleshoot problems*

COMPETENCY 10.0.5: Maintain and service electrical systems for large engines

COMPETENCY BUILDERS:

10.0.5.1 Follow general safety precautions
10.0.5.2 Install battery
10.0.5.3 Clean and treat battery terminals, cables, and battery box
10.0.5.4 Charge battery
10.0.5.5 Check ammeter
10.0.5.6 Replace fuses and light bulbs
10.0.5.7 Replace distributor cap and rotor*
10.0.5.8 Replace spark plugs and wires*
10.0.5.9 Clean and adjust spark plug gap*
10.0.5.10 Time engine*
10.0.5.11 Check specific gravity of battery*
10.0.5.12 Inspect, adjust, or change breaker points*
10.0.5.13 Troubleshoot problems*

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COMPETENCY 10.0.6: Service belt and drive chain assemblies

COMPETENCY BUILDERS:

10.0.6.1 Follow general safety precautions
10.0.6.2 Replace belts
10.0.6.3 Maintain gear drives
10.0.6.4 Clean sprockets, chains, and gears
10.0.6.5 Replace gears*
10.0.6.6 Replace and adjust chains
10.0.6.7 Replace pulleys
10.0.6.8 Replace rollers
10.0.6.9 Clean and lubricate drive parts
10.0.6.10 Troubleshoot problems

COMPETENCY 10.0.7: Repair and service wheels, tires, and tracks

COMPETENCY BUILDERS:

10.0.7.1 Follow general safety precautions
10.0.7.2 Check tire pressure
10.0.7.3 Check and tighten lug nuts
10.0.7.4 Protect tires during equipment storage
10.0.7.5 Replace implement wheels
10.0.7.6 Adjust wheel spacing*
10.0.7.7 Service wheel bearing assembly*
10.0.7.8 Patch tire*

COMPETENCY 10.0.8: Service hydraulic systems

COMPETENCY BUILDERS:

10.0.8.1 Follow general safety precautions
10.0.8.2 Check and add oil
10.0.8.3 Check gauges each operation
10.0.8.4 Bleed air from system*
10.0.8.5 Drain, clean, flush, and refill hydraulic system*
10.0.8.6 Replace oil filter*
10.0.8.7 Troubleshoot problems*

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COMPETENCY 10.0.9: Hitch equipment to power units

COMPETENCY BUILDERS:

10.0.9.1 Follow general safety precautions
10.0.9.2 Connect front-end operated equipment
10.0.9.3 Connect 3-point hitch equipment
10.0.9.4 Attach and detach PTO equipment
10.0.9.5 Hitch towed equipment
10.0.9.6 Connect hydraulic systems and equipment
10.0.9.7 Connect electrical hookups
10.0.9.8 Connect safety chains

COMPETENCY 10.0.10: Operate equipment and vehicles

COMPETENCY BUILDERS:

10.0.10.1 Follow general safety precautions
10.0.10.2 Identify engine fundamentals
10.0.10.3 Refuel power units
10.0.10.4 Add wheel and front-end weights
10.0.10.5 Check prestart mechanism
10.0.10.6 Start engine
10.0.10.7 Read equipment gauges
10.0.10.8 Operate equipment and vehicles under work conditions and on public roads according to certification standards
10.0.10.9 Use hand operating signals
10.0.10.10 Adjust equipment and vehicles*

COMPETENCY 10.0.11: Identify components of material handling systems

COMPETENCY BUILDERS:

10.0.11.1 Identify components of silo loaders
10.0.11.2 Identify components of manure handling equipment
10.0.11.3 Identify components of grain handling equipment
10.0.11.4 Identify components of feed handling equipment

COMPETENCY 10.0.12: Operate material handling equipment

COMPETENCY BUILDERS:

10.0.12.1 Follow general safety precautions
10.0.12.2 Identify equipment
10.0.12.3 Adjust equipment*

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COMPETENCY 10.0.13: Clean and store equipment

COMPETENCY BUILDERS:

10.0.13.1 Follow general safety precautions
10.0.13.2 Remove debris from equipment
10.0.13.3 Steam or high-pressure wash equipment
10.0.13.4 Protect equipment from weather
10.0.13.5 Lubricate for storage

COMPETENCY 10.0.14: Plan construction of farm structures

COMPETENCY BUILDERS:

10.0.14.1 Follow general safety precautions*
10.0.14.2 Calculate board footage of lumber
10.0.14.3 Identify nominal and dressed sizes of lumber
10.0.14.4 Select types of structures required*
10.0.14.5 Determine space requirements*
10.0.14.6 Design plans for new structures or improvement or expansion of current structures*
10.0.14.7 Interpret blueprints*
10.0.14.8 Develop bill of materials*
10.0.14.9 Select building materials*
10.0.14.10 Identify grading categories for softwood and for hardwood*
10.0.14.11 Excavate structure sites for concrete pouring*

COMPETENCY 10.0.15: Construct with concrete*

COMPETENCY BUILDERS:

10.0.15.1 Follow general safety precautions*
10.0.15.2 Use survey level*
10.0.15.3 Calculate volume of concrete to order or mix*
10.0.15.4 Select concrete materials*
10.0.15.5 Build and remove concrete forms*
10.0.15.6 Order concrete*
10.0.15.7 Mix and pour concrete*
10.0.15.8 Install concrete reinforcement*
10.0.15.9 Evaluate concrete slump*
10.0.15.10 Finish concrete surface*
10.0.15.11 Cure concrete*
10.0.15.12 Mix mortar*
10.0.15.13 Lay blocks*

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COMPETENCY 10.0.16: Construct with wood

COMPETENCY BUILDERS:

10.0.16.1 Follow general safety precautions
10.0.16.2 Identify types of lumber
10.0.16.3 Cut lumber to dimension
10.0.16.4 Stack, season, and store lumber*
10.0.16.5 Install and repair bracing*
10.0.16.6 Install and repair wood siding*
10.0.16.7 Install and repair doors and hardware*
10.0.16.8 Repair minor leaks in roof*
10.0.16.9 Replace window panes*
10.0.16.10 Cut and fit joints*
10.0.16.11 Select and apply metal fasteners
10.0.16.12 Assemble joints with glue*
10.0.16.13 Select and install insulation*

COMPETENCY 10.0.17: Plan electrical installations*

COMPETENCY BUILDERS:

10.0.17.1 Follow general safety precautions*
10.0.17.2 Determine electrical needs*
10.0.17.3 Plan wiring layouts*
10.0.17.4 Plan distribution system*
10.0.17.5 Plan service entrance*
10.0.17.6 Select wire and electrical supplies*
10.0.17.7 Determine total cost of materials*
10.0.17.8 Select alternative electrical sources*

COMPETENCY 10.0.18: Install and maintain electrical systems

COMPETENCY BUILDERS:

10.0.18.1 Follow general safety precautions
10.0.18.2 Read electric meter
10.0.18.3 Replace circuit breakers and fuses
10.0.18.4 Repair and replace electrical cord
10.0.18.5 Connect and disconnect alternative power sources
10.0.18.6 Select and use tools, measuring devices, and other equipment*
10.0.18.7 Wire electrical circuits*
10.0.18.8 Replace lighting fixtures*
10.0.18.9 Clean and lubricate motors*
10.0.18.10 Maintain records of electrical maintenance*
10.0.18.11 Install and maintain electric motors on structure*
10.0.18.12 Troubleshoot problems*

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COMPETENCY 10.0.19: Install and maintain water systems

COMPETENCY BUILDERS:

10.0.19.1 Follow general safety precautions
10.0.19.2 Cut and fit pipe or tubing
10.0.19.3 Thread metal pipe
10.0.19.4 Install and repair pipe and pipe fittings
10.0.19.5 Plan system*
10.0.19.6 Determine required quantity and quality of water*
10.0.19.7 Select water source*
10.0.19.8 Determine tools and equipment needed*
10.0.19.9 Contract for system installation*
10.0.19.10 Select pipe, pipe fittings, insulation, and plumbing fixtures*
10.0.19.11 Determine cost of materials*
10.0.19.12 Install and repair valves and faucets*
10.0.19.13 Install insulation and filter*
10.0.19.14 Troubleshoot problems*
10.0.19.15 Troubleshoot and maintain automatic waterers*

COMPETENCY 10.0.20: Install and maintain fencing

COMPETENCY BUILDERS:

10.0.20.1 Follow general safety precautions
10.0.20.2 Install gates
10.0.20.3 Install fasteners
10.0.20.4 Determine amount of fence required*
10.0.20.5 Select fencing materials*
10.0.20.6 Select posts and braces*
10.0.20.7 Select finish or preservative*
10.0.20.8 Select fasteners*
10.0.20.9 Install posts and braces*
10.0.20.10 Install braces*
10.0.20.11 Lay out and stretch fence*
10.0.20.12 Select and install electric charging units*

COMPETENCY 10.0.21: Use and maintain hand and power tools

COMPETENCY BUILDERS:

10.0.21.1 Follow general safety precautions
10.0.21.2 Identify tools
10.0.21.3 Select tools
10.0.21.4 Follow operation instructions
10.0.21.5 Set up and adjust tools
10.0.21.6 Clean and lubricate tools
10.0.21.7 Store tools
10.0.21.8 Recondition tools*

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COMPETENCY 10.0.22: Weld with gas*

COMPETENCY BUILDERS:

10.0.22.1 Follow general safety precautions*
10.0.22.2 Set up and adjust gas welding equipment*
10.0.22.3 Select rod*
10.0.22.4 Select and apply flux*
10.0.22.5 Make lap weld*
10.0.22.6 Make butt weld*
10.0.22.7 Make fillet weld*
10.0.22.8 Weld steel in horizontal and non horizontal positions*
10.0.22.9 Weld steel with filler rod*
10.0.22.10 Weld steel by fusion*
10.0.22.11 Braze metal*
10.0.22.12 Hardsurface metal*
10.0.22.13 Cut metal*
10.0.22.14 Clean and store gas welding equipment*
10.0.22.15 Secure and store gas cylinders*

COMPETENCY 10.0.23: Weld with electric arc and MIG

COMPETENCY BUILDERS:

10.0.23.1 Follow general safety precautions
10.0.23.2 Select welding equipment and accessories
10.0.23.3 Select electrode sizes and types
10.0.23.4 Select settings
10.0.23.5 Prepare metal
10.0.23.6 Weld steel in horizontal positions
10.0.23.7 Make lap weld
10.0.23.8 Make butt weld
10.0.23.9 Make fillet weld
10.0.23.10 Weld pipe
10.0.23.11 Cut metal using electrode
10.0.23.12 Hardsurface metal*
10.0.23.13 Weld steel in non-horizontal positions*
10.0.23.14 Weld cast iron*
10.0.23.15 Clean and store welding equipment

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COMPETENCY 10.0.24: Fabricate with metal

COMPETENCY BUILDERS:

10.0.24.1 Follow general safety precautions
10.0.24.2 Design metal project*
10.0.24.3 Prepare bill of materials*
10.0.24.4 Identify types of metal*
10.0.24.5 Identify nominal sizes of metal*
10.0.24.6 Determine metal properties*
10.0.24.7 Test metal for type and hardness*
10.0.24.8 Punch and drill metal
10.0.24.9 Cut metal
10.0.24.10 Select thread and size for tap or die
10.0.24.11 Grind metal
10.0.24.12 Attach hardware to sheet metal
10.0.24.13 Store metal
10.0.24.14 Join metal with pop rivets
10.0.24.15 Bend sheet metal*
10.0.24.16 Join metal with spot welder*

COMPETENCY 10.0.25: Solder*

COMPETENCY BUILDERS:

10.0.25.1 Follow general safety precautions*
10.0.25.2 Select soldering method*
10.0.25.3 Select tools*
10.0.25.4 Select flux*
10.0.25.5 Select solder*
10.0.25.6 Prepare surfaces*
10.0.25.7 Apply solder*
10.0.25.8 Clean equipment*

COMPETENCY 10.0.26: Apply protective coatings

COMPETENCY BUILDERS:

10.0.26.1 Follow general safety precautions
10.0.26.2 Determine type of coating*
10.0.26.3 Select and use application tools
10.0.26.4 Use steam cleaner and pressure washer
10.0.26.5 Sand surface
10.0.26.6 Apply masking tape
10.0.26.7 Mix thinner
10.0.26.8 Apply primer coat
10.0.26.9 Apply finish coat
10.0.26.10 Use paint and varnish remover

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UNIT 11: Crop Production

COMPETENCY 11.0.1: Evaluate and manage soil*

COMPETENCY BUILDERS:

11.0.1.1 Evaluate soil drainage*
11.0.1.2 Identify soil texture and percent organic matter*
11.0.1.3 Identify soil structure and type*
11.0.1.4 Determine slope*
11.0.1.5 Determine soil use capability for agriculture*
11.0.1.6 Determine suitability of soil for nonagricultural uses*
11.0.1.7 Evaluate problems affecting soil use and management*
11.0.1.8 Determine and implement management and conservation practices*
11.0.1.9 Follow government regulations and guidelines*
11.0.1.10 Use infrared mapping**

COMPETENCY 11.0.2: Plan crop planting

COMPETENCY BUILDERS:

11.0.2.1 Identify seeds
11.0.2.2 Interpret seed tag information
11.0.2.3 Determine crops to plant*
11.0.2.4 Establish crop rotation*
11.0.2.5 Select seed*
11.0.2.6 Conduct seed germination and vigor tests*
11.0.2.7 Inoculate seed
11.0.2.8 Determine seeding rate*
11.0.2.9 Store seed

COMPETENCY 11.0.3: Plant and till crops

COMPETENCY BUILDERS:

11.0.3.1 Follow general safety precautions
11.0.3.2 Select planting or seeding method and date*
11.0.3.3 Prepare seedbed
11.0.3.4 Determine planting depth and rate*
11.0.3.5 Calibrate planting equipment*
11.0.3.6 Operate planting equipment*
11.0.3.7 Compact seedbed after seeding*
11.0.3.8 Cultivate crops*
11.0.3.9 Identify planting failure problems*
11.0.3.10 Use seed encapsulating**

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COMPETENCY 11.0.4: Test soil and plant tissues

COMPETENCY BUILDERS:

11.0.4.1 Take soil samples
11.0.4.2 Submit prepared soil samples and forms to analysis laboratory*
11.0.4.3 Interpret soil analysis results*
11.0.4.4 Take plant tissue samples*
11.0.4.5 Submit prepared plant tissue samples and forms to analysis laboratory*
11.0.4.6 Interpret plant analysis results*
11.0.4.7 Use infrared photographs**
11.0.4.8 Use infield monitors**

COMPETENCY 11.0.5: Determine fertilization needs*

COMPETENCY BUILDERS:

11.0.5.1 Identify factors influencing fertilizer requirements*
11.0.5.2 Use soil analysis results to determine nutrient levels*
11.0.5.3 Determine crop nutrient needs*
11.0.5.4 Identify plant nutrient deficiency symptoms*
11.0.5.5 Determine amount and kind of nutrients and lime to apply*
11.0.5.6 Evaluate effect leaching has on nutrient availability*
11.0.5.7 Evaluate influence soil pH has on nutrient availability*
11.0.5.8 Maintain pH levels for crops grown*
11.0.5.9 Estimate costs of lime and fertilizer recommendations*
11.0.5.10 Develop fertilization plan*
11.0.5.11 Define meaning of NPK and trace elements on fertilizer information*

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COMPETENCY 11.0.6: Fertilize crops*

COMPETENCY BUILDERS:

11.0.6.1 Follow general safety precautions*
11.0.6.2 Analyze and interpret manure sample information*
11.0.6.3 Interpret fertilization rate charts*
11.0.6.4 Select fertilizer analysis*
11.0.6.5 Select fertilizer application method*
11.0.6.6 Determine time for fertilizer application*
11.0.6.7 Mix fertilizer solutions*
11.0.6.8 Calibrate fertilizer application equipment*
11.0.6.9 Adjust fertilizer application rates *
11.0.6.10 Transfer NH5 from nurse tank to applicator*
11.0.6.11 Transfer liquid fertilizer from nurse tank to applicator*
11.0.6.12 Apply fertilizer*
11.0.6.13 Recognize signs of fertilizer injury*

COMPETENCY 11.0.7: Control insects and diseases*

COMPETENCY BUILDERS:

11.0.7.1 Follow general safety precautions*
11.0.7.2 Inspect crops and determine when controls are needed*
11.0.7.3 Evaluate options and select control method*
11.0.7.4 Interpret chemical labels and compatibility charts*
11.0.7.5 Follow chemical use regulations*
11.0.7.6 Calibrate application equipment*
11.0.7.7 Select and apply chemicals *
11.0.7.8 Recognize chemical injury*
11.0.7.9 Maintain application record*
11.0.7.10 Apply biological control methods*
11.0.7.11 Recognize insect injury*

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COMPETENCY 11.0.8: Control weeds

COMPETENCY BUILDERS:

11.0.8.1 Follow general safety precautions
11.0.8.2 Identify plants as monocots or dicots*
11.0.8.3 Identify plants as annuals, biennials, or perennials*
11.0.8.4 Identify plant parts and functions*
11.0.8.5 Determine type of control needed*
11.0.8.6 Interpret chemical labels and compatibility charts*
11.0.8.7 Calibrate application equipment*
11.0.8.8 Follow chemical use regulations
11.0.8.9 Maintain application record
11.0.8.10 Select and apply chemicals*
11.0.8.11 Recognize chemical injury*
11.0.8.12 Cultivate fields*
11.0.8.13 Clip fields
11.0.8.14 Apply biological control methods*
11.0.8.15 Rotate crops*

COMPETENCY 11.0.9: Apply pesticides

COMPETENCY BUILDERS:

11.0.9.1 Follow general safety precautions
11.0.9.2 Mix and load chemical application equipment
11.0.9.3 Use proper handling procedures
11.0.9.4 Dispose of containers
11.0.9.5 Wear protective clothing and equipment
11.0.9.6 Follow proper cleaning and storing procedures

COMPETENCY 11.0.10: Harvest crops

COMPETENCY BUILDERS:

11.0.10.1 Follow general safety precautions
11.0.10.2 Determine crop maturity*
11.0.10.3 Determine moisture content*
11.0.10.4 Determine acreage to cut at one time*
11.0.10.5 Determine forage cuttings to harvest*
11.0.10.6 Cut and condition hay
11.0.10.7 Rake and ted hay
11.0.10.8 Cut forages for green chop feeding*
11.0.10.9 Combine grain crops*
11.0.10.10 Bale dried forages and bedding materials*
11.0.10.11 Clip grain stubble after harvesting
11.0.10.12 Determine harvest losses*
11.0.10.13 Determine yields*
11.0.10.14 Utilize intensive grazing*
11.0.10.15 Use microwave drying**

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COMPETENCY 11.0.11: Store crops

COMPETENCY BUILDERS:

11.0.11.1 Follow general safety precautions
11.0.11.2 Estimate amount of grain storage needed*
11.0.11.3 Select storage facilities*
11.0.11.4 Load and unload bales
11.0.11.5 Unload grain wagons
11.0.11.6 Unload silage wagons
11.0.11.7 Stack bales
11.0.11.8 Fill silo, bags and balage*
11.0.11.9 Apply silage and hay additives*
11.0.11.10 Estimate amount of grain in storage
11.0.11.11 Estimate amount of forage in storage*

COMPETENCY 11.0.12: Maintain quality of stored crops

COMPETENCY BUILDERS:

11.0.12.1 Follow general safety precautions
11.0.12.2 Clean storage areas
11.0.12.3 Use grain probe to collect crop samples
11.0.12.4 Determine moisture content
11.0.12.5 Determine condition of stored crops*
11.0.12.6 Determine safe moisture content for storing grains and forages*
11.0.12.7 Control temperature and humidity in storage areas*
11.0.12.8 Operate dryer and fans*
11.0.12.9 Identify storage problems*

UNIT 12: Employability Skills

SUBUNIT 12.1: Career Development

COMPETENCY 12.1.1: Investigate career options

COMPETENCY BUILDERS:

12.1.1.1 Determine interests and aptitudes
12.1.1.2 Identify career options
12.1.1.3 Research occupations matching interests and aptitudes
12.1.1.4 Select career(s) that best match(es) interests and aptitudes
12.1.1.5 Identify advantages and disadvantages of career options, including nontraditional careers
12.1.1.6 Assess differences in wages, annual incomes, and job opportunities based on geographic location
12.1.1.7 Develop a career plan

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COMPETENCY 12.1.2: Analyze potential barriers to employment

COMPETENCY BUILDERS:

12.1.2.1 Identify common barriers to employment
12.1.2.2 Develop strategies to overcome employment barriers

UNIT 12: Employability Skills

SUBUNIT 12.2: Decision Making and Problem Solving

COMPETENCY 12.2.1: Apply decision-making techniques in the workplace

COMPETENCY BUILDERS:

12.2.1.1 Identify the decision to be made
12.2.1.2 Compare alternatives
12.2.1.3 Determine consequences of each alternative
12.2.1.4 Make decisions based on values and goals
12.2.1.5 Evaluate the decision made

COMPETENCY 12.2.2: Apply problem-solving techniques in the workplace

COMPETENCY BUILDERS:

12.2.2.1 Diagnose the problem and its causes
12.2.2.2 Identify alternatives and their consequences in relation to the problem
12.2.2.3 Examine multicultural and nonsexist dimensions of problem solving
12.2.2.4 Utilize resources to explore possible solutions to the problem
12.2.2.5 Compare and contrast the advantages and disadvantages of each solution
12.2.2.6 Determine appropriate action
12.2.2.7 Evaluate results

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UNIT 12: Employability Skills

SUBUNIT 12.3: Work Ethic

COMPETENCY 12.3.1: Evaluate the relationship of self-esteem to work ethic

COMPETENCY BUILDERS:

12.3.1.1 Identify special characteristics and abilities in self and others
12.3.1.2 Identify internal and external factors that affect self-esteem

COMPETENCY 12.3.2: Analyze the relationship of personal values and goals to work ethic both in and out of the workplace

COMPETENCY BUILDERS:

12.3.2.1 Distinguish between values and goals
12.3.2.2 Determine the importance of values and goals
12.3.2.3 Evaluate how values affect goals
12.3.2.4 Identify short-term and long-term goals
12.3.2.5 Prioritize personal goals
12.3.2.6 Describe how personal values are reflected in work ethic
12.3.2.7 Describe how interactions in the workplace affect personal work ethic
12.3.2.8 Examine how life changes affect personal work ethic

COMPETENCY 12.3.3: Demonstrate work ethic

COMPETENCY BUILDERS:

12.3.3.1 Examine factors that influence work ethic
12.3.3.2 Exhibit characteristics that reflect an appropriate work ethic

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UNIT 12: Employability Skills

SUBUNIT 12.4: Job-Seeking Skills

COMPETENCY 12.4.1: Prepare for employment

COMPETENCY BUILDERS:

12.4.1.1 Identify traditional and nontraditional employment sources
12.4.1.2 Utilize employment sources
12.4.1.3 Research job opportunities, including nontraditional careers
12.4.1.4 Interpret equal employment opportunity laws
12.4.1.5 Explain the critical importance of personal appearance, hygiene, and demeanor throughout the employment process
12.4.1.6 Prepare for generic employment tests and those specific to an occupation/organization

COMPETENCY 12.4.2: Design a résumé

COMPETENCY BUILDERS:

12.4.2.1 Identify personal strengths and weaknesses
12.4.2.2 List skills and/or abilities, career objective(s), accomplishments/achievements, educational background, and work experience
12.4.2.3 Demonstrate legible written communication skills using correct grammar, spelling, and concise wording
12.4.2.4 Complete résumé using various formats
12.4.2.5 Secure references

COMPETENCY 12.4.3: Complete and process job application forms

COMPETENCY BUILDERS:

12.4.3.1 Explain the importance of an application form
12.4.3.2 Identify ways to obtain job application forms
12.4.3.3 Describe methods for handling illegal questions on job application forms
12.4.3.4 Demonstrate legible written communications skills using correct grammar, spelling, and concise wording
12.4.3.5 Return application to proper person, request interview, and follow up

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COMPETENCY 12.4.4: Demonstrate interviewing skills

COMPETENCY BUILDERS

12.4.4.1 Investigate interview environment and procedures
12.4.4.2 Explain the critical importance of personal appearance, hygiene, and demeanor
12.4.4.3 Demonstrate question and answer techniques
12.4.4.4 Demonstrate methods for handling difficult and/or illegal interview questions

COMPETENCY 12.4.5: Secure employment

COMPETENCY BUILDERS:

12.4.5.1 Identify present and future employment opportunities within an occupation/organization
12.4.5.2 Research the organization/company
12.4.5.3 Use follow-up techniques to enhance employment potential
12.4.5.4 Compare and evaluate job offers

UNIT 12: Employability Skills

SUBUNIT 12.5: Job Retention Skills

COMPETENCY 12.5.1: Analyze the organizational structure of the workplace

COMPETENCY BUILDERS:

12.5.1.1 Identify and evaluate employer expectations regarding job performance, work habits, attitudes, personal appearance, and hygiene
12.5.1.2 Be aware of and obey all company policies and procedures
12.5.1.3 Examine the role/relationship between employee and employer
12.5.1.4 Recognize opportunities for advancement and reasons for termination

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COMPETENCY 12.5.2: Maintain positive relations with others

COMPETENCY BUILDERS:

12.5.2.1 Exhibit appropriate work habits and attitude
12.5.2.2 Identify behaviors to establish successful working relationships
12.5.2.3 Cooperate and compromise through teamwork and group participation
12.5.2.4 Identify alternatives for dealing with harassment, bias, and discrimination based on race, color, national origin, sex, religion, handicap, or age

UNIT 12: Employability Skills

SUBUNIT 12.6: Job Advancement

COMPETENCY 12.6.1: Analyze opportunities for personal and career growth

COMPETENCY BUILDERS:

12.6.1.1 Determine opportunities within an occupation/organization
12.6.1.2 Compare and contrast other opportunities
12.6.1.3 List benefits of job advancement
12.6.1.4 Evaluate factors involved when assuming a new position within or outside an occupation/organization

COMPETENCY 12.6.2: Exhibit characteristics needed for advancement

COMPETENCY BUILDERS:

12.6.2.1 Display a positive attitude
12.6.2.2 Demonstrate knowledge of a position
12.6.2.3 Perform quality work
12.6.2.4 Adapt to changing situations and technology
12.6.2.5 Demonstrate capability for different positions
12.6.2.6 Participate in continuing education/training programs
12.6.2.7 Respect, accept, and work with ALL individuals in the workplace

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UNIT 12: Employability Skills

SUBUNIT 12.7: Technology in the Workplace

COMPETENCY 12.7.1: Assess the impact of technology in the workplace

COMPETENCY BUILDERS:

12.7.1.1 Cite how past business/industry practices have influenced present business/industry processes
12.7.1.2 Investigate the use of technology in the workplace
12.7.1.3 Analyze how present skills can be applied to learning new technologies

COMPETENCY 12.7.2: Use a variety of technological applications

COMPETENCY BUILDERS:

12.7.2.1 Explore basic mathematical, scientific, computer, and technological principles
12.7.2.2 Use technology to accomplish assigned tasks
12.7.2.3 Create solutions to problems using technical means

UNIT 12: Employability Skills

SUBUNIT 12.8: Lifelong Learning

COMPETENCY 12.8.1: Apply lifelong learning to individual situations

COMPETENCY BUILDERS:

12.8.1.1 Define lifelong learning
12.8.1.2 Identify factors that cause the need for lifelong learning

COMPETENCY 12.8.2: Adapt to change

COMPETENCY BUILDERS:

12.8.2.1 Analyze the effects of change
12.8.2.2 Identify reasons why goals change
12.8.2.3 Describe the importance of flexibility when reevaluating goals
12.8.2.4 Evaluate the need for continuing education/training

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UNIT 12: Employability Skills

SUBUNIT 12.9: Economic Education

COMPETENCY 12.9.1: Analyze global enterprise systems

COMPETENCY BUILDERS:

12.9.1.1 Identify characteristics of various enterprise systems
12.9.1.2 Examine the relationship between competition, risk, and profit
12.9.1.3 Illustrate how supply and demand influence price

COMPETENCY 12.9.2: Evaluate personal money management

COMPETENCY BUILDERS:

12.9.2.1 Describe the need for personal management records
12.9.2.2 Identify methods of taxation
12.9.2.3 Analyze how credit affects financial security
12.9.2.4 Compare types and methods of investments
12.9.2.5 Prepare a personal budget
12.9.2.6 Be an informed and responsible consumer
12.9.2.7 Analyze the effects of advertising on the consumer

UNIT 12: Employability Skills

SUBUNIT 12.10: Balancing Work and Family

COMPETENCY 12.10.1: Analyze the effects of family on work

COMPETENCY BUILDERS:

12.10.1.1 Recognize how family values, goals, and priorities are reflected in the workplace
12.10.1.2 Identify present and future family structures and responsibilities
12.10.1.3 Describe personal and family roles
12.10.1.4 Analyze concerns of working parent(s)
12.10.1.5 Examine how family responsibilities can conflict with work
12.10.1.6 Resolve family-related conflicts
12.10.1.7 Explain how to use support systems/community resources to help resolve family-related conflicts

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COMPETENCY 12.10.2: Analyze the effects of work on family

COMPETENCY BUILDERS:

12.10.2.1 Identify responsibilities associated with paid and nonpaid work
12.10.2.2 Compare the advantages and disadvantages of multiple incomes
12.10.2.3 Examine how work can conflict with family responsibilities
12.10.2.4 Describe how work-related stress can affect families
12.10.2.5 Identify family support systems and resources

UNIT 12: Employability Skills

SUBUNIT 12.11: Citizenship in the Workplace

COMPETENCY 12.11.1: Exercise the rights and responsibilities of citizenship in the workplace

COMPETENCY BUILDERS:

12.11.1.1 Identify the basic rights and responsibilities of citizenship
12.11.1.2 Examine the history and contributions of all racial, ethnic, and cultural groups

COMPETENCY 12.11.2: Cooperate with others in the workplace

COMPETENCY BUILDERS:

12.11.2.1 Identify situations in which compromise is necessary
12.11.2.2 Examine how individuals from various backgrounds contribute to work-related situations
12.11.2.3 Demonstrate initiative to facilitate cooperation
12.11.2.4 Give and receive constructive criticism to enhance cooperation

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UNIT 12: Employability Skills

SUBUNIT 12.12: Leadership

COMPETENCY 12.12.1: Evaluate leadership styles appropriate for the workplace

COMPETENCY BUILDERS:

12.12.1.1 Identify characteristics of effective leaders
12.12.1.2 Compare leadership styles
12.12.1.3 Demonstrate effective delegation skills
12.12.1.4 Identify opportunities to lead in the workplace

COMPETENCY 12.12.2: Demonstrate effective teamwork skills

COMPETENCY BUILDERS:

12.12.2.1 Identify the responsibilities of a valuable group member
12.12.2.2 Exhibit open-mindedness
12.12.2.3 Identify methods of involving each member of a team
12.12.2.4 Contribute to the efficiency and success of a group
12.12.2.5 Determine ways to motivate others

COMPETENCY 12.12.3: Utilize effective communication skills

COMPETENCY BUILDERS:

12.12.3.1 Demonstrate the importance of listening
12.12.3.2 Demonstrate assertive communication
12.12.3.3 Recognize the importance of verbal and nonverbal cues and messages
12.12.3.4 Analyze written material
12.12.3.5 Prepare written material
12.12.3.6 Give and receive feedback
12.12.3.7 Articulate thoughts
12.12.3.8 Use appropriate language

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UNIT 12: Employability Skills

SUBUNIT 12.13: Entrepreneurship

COMPETENCY 12.13.1: Evaluate the role of small business in the economy

COMPETENCY BUILDERS:

12.13.1.1 Identify the benefits of small business to a community
12.13.1.2 Analyze opportunities for small business in a community

COMPETENCY 12.13.2: Examine considerations of starting a business

COMPETENCY BUILDERS:

12.13.2.1 Research a business idea
12.13.2.2 Compare various ways to become a small business owner
12.13.2.3 Investigate factors to consider in financing a new business
12.13.2.4 Evaluate entrepreneurship as a career option

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